

REMARKS

Pursuant to 37 C.F.R. §1.111, reconsideration of the instant application, as amended herewith, is respectfully requested. Entry of the amendment is requested.

Claims 1-6 are presently pending before the Office. No claims have been canceled. Applicants have amended the claims. No new matter has been added. Support for the amendments can be found throughout the specification as originally filed. Applicants are not intending in any manner to narrow the scope of the originally filed claims.

The Examiner's Action mailed March 21, 2003 (Paper No. 7) and the references cited therein have been carefully studied by Applicants and the undersigned counsel. The amendments appearing herein and these explanatory remarks are believed to be fully responsive to the Action. Accordingly, this important patent application is believed to be in condition for allowance.

Relying on 35 U.S.C. §102(b), the Examiner has rejected the subject matter of claims 1-2 as being anticipated by Mueller or JP '775. Applicants respectfully traverse the rejection and request reconsideration.

Applicants respectfully submit that it is important to note that, historically, the Office and the Federal Circuit has required that for a §102 anticipation, a single reference must teach (i.e., identically describe) each and every element of the rejected claim. The Office has steadfastly and properly maintained that view.

The Mueller patent and JP '775 fail this test. Applicants submit that the phenol compounds claimed in amended Claims 1-2, represented by a general formula (I) and (II), are novel over the cited art. That is, the compounds concretely stated in example 7 and 8 in the U.S. Mueller and the compound 5 in JP-A-4-173775 are different than those claimed in amended claims 1-2.

Accordingly, each and every element of Applicants' claims have not been taught in that single reference. Accordingly, Applicants respectfully submit that claims 1-2 have not been anticipated by the Mueller patent or JP '775 under 35 U.S.C. §102(b), and respectfully request that such rejection be withdrawn.

Applicants note that the Examiner's presumption in paragraph 7 of the Office Action is correct.

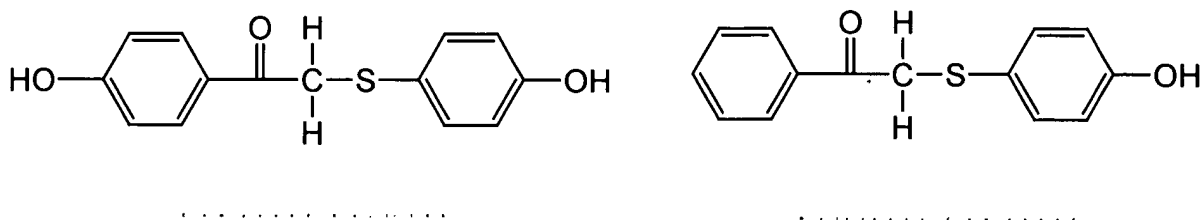
Relying on 35 U.S.C. §103(a), the Examiner has rejected the subject matter of claims 1-2 and 4-5 as obvious over Lau and claims 3 and 6 as obvious over Tsuchiya. Applicants respectfully traverse the rejection and request reconsideration.

It is evident that Applicants' invention is decidedly different from the teachings of the cited patents.

The present invention is different from the reference in that it is "the recording material containing a color forming dye". That is, the phenol compounds of the present invention have the characteristic in that they and the color forming dye are the meltdown mixture and are recorded by irradiating the energy. In other words, the phenol compounds of the present invention have the ability as the developer. And the images have the excellent lightfastness (please refer to Test Example 3 in the present invention).

On the other hand, Lau's compounds (U.S. 5,614,357) are used as the "Photographic Element". And they have only a maximum absorbance of 680 nm and have a sharp cutting spectrum on the short wavelength side of the maximum. They appear to be useful in color negative film. Also, there is no mention in Lau that Lau's compounds can be used as the developer. The phenol compounds of the present invention have the above-mentioned excellent lightfastness, and there is no suggestion of this characteristic in the reference. Therefore, the present invention would have not been obvious to one of ordinary skill in the art though the structurally similar compounds are disclosed.

Regarding the Tsuchiya reference, Applicants have practiced the comparative experiment. "Compound No. I-106" of the present invention and a reference Compound (the compound used by the Example 36 of the U.S. 4,988,662) were used by the comparative experiment.



The compounds of the present invention are used as the developer, whereas the compounds of the reference are used as the sensitizer. Therefore, we practiced the following

comparative experiment to prove the fact that the present invention is the better developer than the reference.

(Comparative Experiment)

Example 1 (Preparation of Thermal Recording Papers)

Dye dispersion (A solution)

3-di-n-butylamino-6-methyl-7-anilino-fluoran 16 parts

10% aqueous solution of polyvinyl alcohol 84 parts

Developer dispersion (B solution)

4'-hydroxy-2-(4-hydroxyphenylthio)acetophenone (Compound No. I-106) 16 parts

10% aqueous solution of polyvinyl alcohol 84 parts

Filler dispersion (C solution)

Calcium carbonate 27.8 parts

10% aqueous solution of polyvinyl alcohol 26.2 parts

Water 71 parts

All components for each of A solution, B solution and C solution shown above were mixed and thoroughly grinded by using a sand grinder, respectively, to prepare each dispersed solutions of A to C. 1 part by weight of A solution, 2 parts by weight of B solution and 4 parts by weight of C solution were mixed to prepare a coating solution. The coating solution was coated onto a white paper by using a wire rod (No. 12) and then dried. The coated paper was then subjected to calendaring to prepare a thermal recording paper. (The amount of the coating solution based on the dry weight was approximately 5.5 g/m².)

Comparative Example 1

The thermal recording material of the present invention was prepared according to the same process as described in Example 1, except that 2-(4-hydroxyphenylthio)acetophenone (Reference Compound) was used in place of the developer (Compound No. I-106) used in Example 1.

Test Example 1 (Lightfast Test)

Each of the thermal recording papers prepared in Example 1 and Comparative Example 1 were recorded to the saturated state by using Thermal Recording Paper Color Forming Testing Apparatus (manufactured by Okura Denki Co., Ltd., Type: TH-PMD). The images were subjected to lightfast tests where a lightfast testing apparatus (Ultraviolet Radiation Long Life Fade Meter, Type: FAL-5, manufactured by Suga Shikenki Co., Ltd.) is employed for the measurement. The densities of the tested images after 48 hours were measured. The results are shown in Table 1.

Table 1

	Image	
	Original	Lightfastness
Example 1	1.23	1.08 < 88 >
Comparative Example 1	0.89	0.65 < 73 >

Figures indicated in the table denote Macbeth values, and the figures in < > denote residual image ratio.

“Compound No. I-106” has a higher original concentration of the image and excellent lightfastness exceeding that of the “Reference Compound” as the above-mentioned “Test Example 1”. Therefore, the present invention is not obvious to one of ordinary skill in the art.

Accordingly, the Examiner has not established a prima facie case of obviousness.

Clearly, in the absence of any suggestion or in view of the absence of any teaching whatsoever of how one skilled in the art would attempt to use the cited references to produce the present invention as claimed, one skilled in the art would certainly not find ample motivation to use the cited references to arrive at the present invention.

The Office has used the claimed invention as a reference against itself as if it had preceded itself in time. Legal authority invalidates such an analytical or reverse engineering approach to patent examination. It is not Applicants' burden to refute the Office's position that it would have been obvious to one of ordinary skill in this art at the time this invention was made to arrive at the present invention in view of the cited references. It is the burden of the Office to

show some teaching or suggestion in the reference to support this allegation. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d at 1051, 5 U.S.P.Q.2d at 1438-39 (Fed. Cir. 1988).

A finding by the Office that a claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made based merely upon finding similar elements in a prior art reference would be "contrary to statute and would defeat the congressional purpose in enacting Title 35." Panduit Corp. v. Dennison Mfg. Co., 1 U.S.P.Q.2d 1593 at 1605 (Fed. Cir. 1987). Accordingly, Applicants respectfully submit that claims 1-6 are patentable over the cited references under 35 U.S.C. §103(a). Withdrawal of the rejection is respectfully requested.

CONCLUSION

As the Federal Circuit observed in Orthopedic Equipment Co. v. United States, 702 F.2d 1005, 217 U.S.P.Q. 193 (Fed. Cir. 1983):

The question of nonobviousness is a simple one to ask, but difficult to answer ... The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of nonobviousness ...

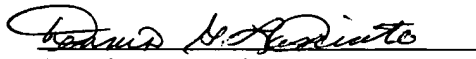
Even though the initial claims in this important patent application were drawn to a new, useful and nonobvious invention, they have now been amended to increase their specificity of language.

A Notice of Allowance is earnestly solicited.

If the Office is not fully persuaded as to the merits of Applicants' position, or if an Examiner's Amendment would place the pending claims in condition for allowance, a telephone call to the undersigned at (727) 538-3800 would be appreciated.

Very respectfully,

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Dennis G. LaPointe
Mason Law, P.A.
17757 U.S. Hwy. 19 N., Suite 500
Clearwater, FL 33764
(727) 538-3800
Reg. No. 40,693